6560-50-P

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Parts 52 and 81

[EPA-R09-OAR-2021-0869; FRL-9503-01-R9]

Maintenance Plan and Redesignation Request; Nogales $PM_{2.5}$ Planning Area; Arizona

AGENCY: Environmental Protection Agency (EPA).

ACTION: Proposed rule.

SUMMARY: The Environmental Protection Agency (EPA) is proposing to approve the "FINAL SIP Revision: Nogales $PM_{2.5}$ Maintenance Plan and Redesignation Request (2006 Fine Particulate NAAQS)" ("Nogales Maintenance Plan" or "Plan") as a revision to the state implementation plan (SIP) for the State of Arizona. The Nogales Maintenance Plan includes, among other elements, an emissions inventory consistent with attainment, a maintenance demonstration, contingency provisions, and a motor vehicle emissions budget for the ten-year maintenance period. The EPA is also proposing to approve the State of Arizona's request to redesignate the Nogales area from nonattainment to attainment for the 24-hour national ambient air quality standard (NAAQS or "standard") for particulate matter of 2.5 micrometers or less ($PM_{2.5}$). The EPA is proposing these actions because this SIP revision meets the applicable Clean Air Act (CAA or "Act") requirements for maintenance plans and because the State has met the requirements under the Act for redesignation of a nonattainment area to attainment with respect to the Nogales area.

DATES: Written comments must arrive on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Submit your comments, identified by Docket ID No. EPA-R09-OAR-2021-0869 at *https://www.regulations.gov*. For comments submitted at Regulations.gov, follow the online instructions for submitting comments. Once submitted, comments cannot be edited or removed from Regulations.gov. The EPA may publish any comment received to its public docket. Do not

submit electronically any information you consider to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Multimedia submissions (audio, video, etc.) must be accompanied by a written comment. The written comment is considered the official comment and should include discussion of all points you wish to make. The EPA will generally not consider comments or comment contents located outside of the primary submission (i.e., on the web, cloud, or other file sharing system). For additional submission methods, or if you need assistance in a language other than English or if you are a person with disabilities who needs a reasonable accommodation at no cost to you, please contact the person identified in the **FOR FURTHER INFORMATION CONTACT** section. For the full EPA public comment policy, information about CBI or multimedia submissions, and general guidance on making effective comments, please visit *https://www.epa.gov/dockets/commenting-epa-dockets*.

FOR FURTHER INFORMATION CONTACT: Anita Lee, Air Planning Office (ARD-2), EPA Region IX, 75 Hawthorne Street, San Francisco, CA 94105, (415) 972-3958, or by email at *lee.anita@epa.gov*.

SUPPLEMENTAL INFORMATION: Throughout this document, "we," "us," and "our" refer to the EPA.

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I. Background

A. The $PM_{2.5}$ National Ambient Air Quality Standards

The EPA sets the NAAQS for certain ambient air pollutants at levels required to protect human health and the environment. Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers, or $PM_{2.5}$, is one of these ambient air pollutants for which the EPA has established health-based standards. On July 18, 1997, the EPA established the first NAAQS for $PM_{2.5}$ ("the 1997 $PM_{2.5}$ Standards"), including an annual standard of 15.0 micrograms per cubic meter ($\mu g/m^3$) based on a three-year average of annual mean $PM_{2.5}$ concentrations, and a 24-hour (or daily) standard of 65 $\mu g/m^3$ based on a three-year average of the 98th percentile of 24-hour concentrations.[1] The EPA established the 1997 $PM_{2.5}$ NAAQS based on significant evidence and numerous health studies demonstrating the serious health effects associated with exposures to $PM_{2.5}$. Subsequently, on October 17, 2006, the EPA strengthened the 24-hour $PM_{2.5}$ NAAQS by revising it to 35 $\mu g/m^3$ and retained the level of the annual $PM_{2.5}$ standard at 15.0 $\mu g/m^3$.[2]

B. The Nogales Area and Regulatory Actions

Following promulgation of a new or revised NAAQS, the EPA is required by the CAA to promulgate designations for areas throughout the U.S. in accordance with section 107(d)(1) of the CAA. Effective December 14, 2009, the EPA established the initial air quality designations for most areas in the United States for the 2006 24-hour $PM_{2.5}$ NAAQS.[3] Among these areas so designated in 2009, the EPA designated the Nogales planning area ("Nogales area") as nonattainment for the 2006 24-hour $PM_{2.5}$ NAAQS based on monitoring data from 2004 through 2007. The Nogales area covers 76.1 square miles and is in southern Santa Cruz County, Arizona, adjacent to the international border with Mexico and the city of Nogales, Sonora, Mexico.[4]

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[1] 62 FR 38652.
[2] 71 FR 61144.
[3] 74 FR 58688 (November 13, 2009).
[4] The legal nonattainment area boundaries for the Nogales area are described in 40 CFR 81.303. ADEQ provided a map portraying these boundaries in the Nogales Maintenance Plan, 5, Figure 2.

On June 2, 2014, the EPA classified as "Moderate" all areas that were designated nonattainment for the 1997 and/or 2006 $PM_{2.5}$ standards at the time under subpart 4 of part D of CAA title I, including the Nogales area.[5] The EPA also established a due date of December 31, 2014, for states to submit SIP revisions related to attainment and nonattainment new source review required for these areas pursuant to subpart 4.

On January 7, 2013, the EPA issued a determination under our clean data policy (a "clean data determination") for the Nogales area in relation to the 2006 24-hour $PM_{2.5}$ NAAQS based on three years of complete, quality-assured, and certified data for the 2009–2011 time frame.[6] The EPA's clean data determination for the Nogales area suspended, for so long as the area continues to attain the 2006 $PM_{2.5}$ NAAQS, CAA requirements in sections 172 and 189 for an attainment demonstration, reasonably available control measure (RACM) demonstration, and reasonable further progress (RFP) demonstration; it also suspended the contingency measure provisions in section 172.[7]

Although the EPA's clean data determination suspended certain CAA requirements for the State, the requirement to submit $PM_{2.5}$ emissions inventories consistent with CAA section 172(c)(3) remained. Consequently, in September 2013, Arizona submitted to the EPA emissions inventories for $PM_{2.5}$ and $PM_{2.5}$ precursors (oxides of nitrogen (NO_X), volatile organic compounds (VOCs), sulfur dioxide (SO_2),[8] and ammonia (NH_3)). The EPA approved these $PM_{2.5}$ and precursor emissions inventories on February 9, 2015.[9]

In May 2017, as required by the CAA, the EPA determined that the Nogales area attained the 2006 24-hour $PM_{2.5}$ NAAQS by December 31, 2015, the date specified by the Act.[10] The

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[5] 79 FR 31566.
[6] 78 FR 887.
[7] For a discussion of the clean data determination for the Nogales area and our clean data policy, see our October 30, 2012 proposed rulemaking (77 FR 65656). Also, the EPA codified the clean data policy in regulation as part of the $PM_{2.5}$ implementation rule finalized on August 24, 2016; 81 FR 58010 (codified at 40 CFR 51.1015).
[8] SO_2 is commonly used as the indicator for all gaseous sulfur oxides (SO_X).
[9] 80 FR 6907.
[10] 82 FR 21711 (May 10, 2017).

EPA relied on 2013–2015 ambient $PM_{2.5}$ data in making this determination that the Nogales area attained the NAAQS by the applicable date.

C. CAA and Regulatory Requirements for Redesignations and Maintenance Plans

The CAA establishes the criteria that must be met for the EPA to redesignate a nonattainment area to attainment of a given NAAQS. Specifically, section 107(d)(3)(E) sets forth the following criteria: (1) the EPA must determine that the area has attained the applicable NAAQS; (2) the EPA must have fully approved the applicable implementation plan for the area under CAA section 110(k); (3) the EPA must determine that the improvement in air quality is due to permanent and enforceable reductions in emissions; (4) the EPA must have fully approved a maintenance plan for the area as meeting the requirements of CAA section 175A; and, (5) the state must have met all requirements applicable to the area under section 110 and title I, part D ("part D") of the CAA. Section 110 identifies a comprehensive list of elements that must be included in SIPs and part D establishes the SIP requirements for nonattainment areas. Part D is divided into six subparts. The generally applicable SIP requirements for nonattainment areas are found in subpart 1 of part D, and the particulate matter-specific SIP requirements are found in subpart 4 of part D.

The EPA provided guidance on redesignations in a document titled "State Implementation Plans; General Preamble for the Implementation of Title I of the Clean Air Act Amendments of 1990," published in the *Federal Register* on April 16, 1992,[11] and supplemented on April 28, 1992 (collectively referred to herein as the "General Preamble").[12] The EPA issued additional guidance in two memoranda: a September 4, 1992 memorandum from John Calcagni, Director, Air Quality Management Division, EPA Office of Air Quality Planning and Standards, titled "Procedures for Processing Requests to Redesignate Areas to Attainment" (referred to herein as the "Calcagni memo"); and, a 1994 memorandum from Mary D. Nichols, titled "Part D

[11] 57 FR 13498.
[12] 57 FR 18070.

New Source Review (part D NSR) Requirements for Areas Requesting Redesignation to Attainment" ("Nichols memo").

The EPA's approval of a state's maintenance plan is one of the CAA prerequisites for redesignation of a nonattainment area to attainment. Section 175A of the CAA provides the general framework for a state's maintenance plans. A state's initial 10-year maintenance plan must provide for maintenance of the NAAQS for at least 10 years after redesignation and include any additional control measures necessary to ensure such maintenance. In addition, maintenance plans must contain contingency provisions necessary to assure the prompt correction of a violation of the NAAQS during the maintenance period. At a minimum, these contingency provisions must include a requirement that a state will implement all control measures contained in the nonattainment SIP prior to redesignation. Because a state's maintenance plan submittals are SIP revisions, the EPA is obligated under CAA section 110(k) to approve them or disapprove them depending upon whether they meet the applicable CAA requirements for such plans outlined above.

For the reasons described in section III of this proposal, the EPA is proposing to approve the Nogales Maintenance Plan and to approve Arizona's request for redesignation of the Nogales area to attainment for the 2006 24-hour $PM_{2.5}$ NAAQS. The EPA's proposed approvals are based on our conclusion that Arizona has satisfied all the criteria under CAA section 107(d)(3)(E).

II. Submissions from the State of Arizona to Redesignate the Nogales Area to Attainment of the 24-Hour $PM_{2.5}$ NAAQS

A. Summary of State Submissions

On April 13, 2021, the Arizona Department of Environmental Quality (ADEQ) submitted to the EPA its redesignation request and the Nogales Maintenance Plan as a revision to the

Arizona SIP.[13] This document addresses all of the CAA section 107(d)(3)(E) requirements for redesignating a nonattainment area to attainment of the NAAQS and includes the required maintenance plan elements. The Nogales Maintenance Plan is organized into seven chapters and five appendices with the maintenance plan elements found in Chapters 5 and 6. The five appendices provide support for the Plan and are divided into the following categories: technical support and documentation for emissions inventories (appendices B-D); and SIP adoption authority, public notice and hearing documentation (appendices A and E).

B. CAA Procedural Requirements for Adoption and Submission of SIP Revisions

CAA sections 110(a) and 110(l) require a state to provide reasonable public notice and opportunity for public hearing prior to the adoption and submission of a SIP revision to the EPA. To meet this procedural requirement, a state must include evidence that it provided adequate public notice and an opportunity for a public hearing, consistent with the EPA's implementing regulations in 40 CFR 51.102.

ADEQ provided public notice and opportunity for public comment on the Nogales Maintenance Plan. On December 29, 2020, ADEQ released a draft of the Nogales Maintenance Plan for public review and published a notice of public meeting to be held on January 28, 2021, to consider adoption of the Nogales Maintenance Plan.[14] Following a virtual public hearing on January 28, 2021,[15] ADEQ adopted the Nogales Maintenance Plan as a revision to the Arizona SIP on April 7, 2021, and submitted the Plan to the EPA on April 13, 2021. On October 13, 2021, the Nogales Maintenance Plan became complete by operation of law pursuant to CAA section 110(k)(1)(B).

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[13] Letter dated April 7, 2021, from Daniel Czecholinski, Director, Air Quality Division, Arizona Department of Environmental Quality, to Deborah Jordan, Acting Regional Administrator, EPA Region IX. Subsequently, Arizona made an electronic submittal of the Nogales Maintenance Plan on April 13, 2021, via the EPA's State Plan Electronic Collection System.

[14] "Arizona Department of Environmental Quality and Public Comment Period and Hearing" published in the Nogales International on December 29, 2020, and January 1, 2021; Exhibit E-III, Appendix E, Nogales $PM_{2.5}$ Maintenance Plan. A similar public notice appeared on the ADEQ website.

[15] "Public Hearing Presiding Officer Certification" signed by Zachary Dorn, Presiding Officer, notarized and dated February 17, 2021, Appendix E, Nogales Maintenance Plan. The hearing transcript, the public comments, and State responses are also found in Appendix E of the Nogales Maintenance Plan.

Based on information provided in the SIP submission and summarized in this proposal, the EPA proposes to find that the submittal of the Nogales Maintenance Plan meets the procedural requirements for public notice and hearing in CAA sections 110(a) and 110(l) and 40 CFR 51.102.

III. Evaluation of Arizona's Redesignation Request for the Nogales Area

A. Evaluation of Whether the Nogales Area Has Attained the $PM_{2.5}$ NAAQS

1. Statutory and Regulatory Requirements

Pursuant to section 107(d)(3)(E)(i) of the CAA, for a nonattainment area to be redesignated to attainment, the EPA must determine that the area has attained the relevant NAAQS. The EPA interprets this requirement to mean that the area must have an attaining design value based on the most recently available and quality-assured air quality monitoring data, collected in accordance with the requirements of 40 CFR part 58.[16] These requirements include quality assurance procedures for monitor operation and data handling, siting parameters for instruments or instrument probes, and minimum ambient air quality monitoring network requirements.[17] State, local, or tribal agencies that operate air monitoring sites in accordance with 40 CFR part 58 must enter the ambient air quality data and associated quality assurance data from these sites in the EPA Air Quality System (AQS) database.[18] These monitoring agencies certify annually that these data are accurate to the best of their knowledge, taking into consideration the quality assurance findings.[19] Accordingly, the EPA relies primarily on AQS data when determining the attainment status of an area.

In accordance with 40 CFR part 50, Appendix N, generally the EPA's finding of attainment of the 2006 24-hour $PM_{2.5}$ NAAQS must be based upon complete, certified data gathered at eligible monitoring sites in the nonattainment area in accordance with 40 CFR part

[16] 57 FR 13563.
[17] 40 CFR 58.2(a).
[18] 40 CFR 58.16. AQS is the EPA's national repository of ambient air quality data.
[19] 40 CFR 58.15(a).

58 and entered in AQS.[20] For the 24-hour $PM_{2.5}$ standard, Appendix N section 1.0(c) defines eligible monitoring sites as those that meet the technical requirements in 40 CFR 58.11. Under 40 CFR section 50.13 and in accordance with part 50, Appendix N, an area meets the 2006 24-hour $PM_{2.5}$ NAAQS when the design value at each eligible monitoring site within the area is less than or equal to 35 $\mu g/m^3$, based on the rounding convention in 40 CFR part 50, Appendix N.[21]

To have a valid design value showing attainment of the $PM_{2.5}$ standard at a given monitoring site, the ambient air quality data must meet data completeness or substitution requirements for each year under consideration. The completeness requirements are met when at least 75 percent of the scheduled sampling days for each quarter have valid data.[22] In determining whether data are suitable for regulatory determinations, the EPA uses a "weight of evidence" approach, considering the requirements of 40 CFR part 58, Appendix A "in combination with other data quality information, reports, and similar documentation that demonstrate overall compliance with Part 58."[23]

2. Monitoring Network Review, Quality Assurance, and Data Completeness

ADEQ is the governmental agency with the authority and responsibilities under the State's laws for collecting ambient air quality data for the Nogales area. As a result, ADEQ submits annual monitoring network plans to the EPA.[24] These plans document the status of ADEQ's air monitoring network, as required under 40 CFR 58.10. The EPA reviews these annual network plans for compliance with the specific requirements in 40 CFR part 58. With respect to $PM_{2.5}$, we have found that the annual network plans submitted by ADEQ meet these

[20] 40 CFR part 50, Appendix N, section 3.0.
[21] The 24-hour $PM_{2.5}$ standard design value is the three-year average of 98th percentile of 24-hour concentrations.
[22] 40 CFR Part 50, Appendix N, section 4.2(b).
[23] 40 CFR part 58, Appendix A, section 1.2.3.
[24] We have included in our docket copies of Arizona's monitoring network plans for 2018–2020, e.g., "State of Arizona Air Monitoring Network Plan for the Year 2020."

requirements under 40 CFR part 58, including minimum monitoring requirements.[25] The Nogales Post Office monitoring site (AQS ID: 04-023-0004) is the only $PM_{2.5}$ monitoring site in the Nogales area.[26]

In accordance with 40 CFR 58.15, ADEQ certifies annually that the previous year's ambient concentration and quality assurance data are completely submitted to AQS and that the ambient concentration data are accurate, taking into consideration the quality assurance findings.[27] Along with the certification letters, ADEQ submits a summary of the precision and accuracy data for all ambient air quality data.[28] The EPA's evaluations of the relevant quality assurance data are reflected in the associated AQS design value reports.[29] These reports include a certification evaluation and concurrence ("Cert&Eval") flag indicating the overall quality of the corresponding monitoring data. Over the period 2018–2020, the associated Cert&Eval flag in the design value report was "Y" for the Nogales Post Office $PM_{2.5}$ monitoring site, meaning that "[t]he certifying agency has submitted a certification letter, and EPA has no unresolved reservations about data quality (after reviewing the letter, the attached summary reports, the amount of quality assurance data submitted to AQS, the quality statistics, and the highest reported concentrations)."[30]

The Nogales area Design Value Report also included a validity indicator ("Valid Ind.") that reflects whether the design value is valid (i.e., calculated using data that meet the applicable completeness criteria). For the purposes of this proposal, we reviewed the data for the 2018–2020 period for completeness and determined that the $PM_{2.5}$ data collected by ADEQ met the 75

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[25] We have included in our docket our reviews of ADEQ's annual network plans and the correspondence transmitting these reviews, e.g., correspondence dated October 28, 2020, from Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX, to Daniel Czecholinski, Director, Air Quality Division, ADEQ.
[26] See, e.g., "State of Arizona Air Monitoring Network Plan for the Year 2020," Table 2.2-1, "SIP Network Monitoring Requirements."
[27] We have included in our docket ADEQ's annual data certifications for 2018, 2019, and 2020, e.g., correspondence dated April 26, 2021, from Daniel Czecholinski, Director, Air Quality Division, ADEQ, to Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX. Annual data certification requirements can be found at 40 CFR 58.15.
[28] 40 CFR 58.15(c).
[29] AQS, Design Value Report (AMP480), dated November 19, 2021.
[30] Id.

percent completeness criterion for all 12 quarters at the $PM_{2.5}$ monitoring site in the Nogales area.[31]

Finally, the EPA conducts regular technical systems audits (TSAs) where we review and inspect state and local ambient air monitoring programs to assess compliance with applicable regulations concerning the collection, analysis, validation, and reporting of ambient air quality data. For the purposes of this proposal, we reviewed the findings from the EPA's 2018 TSA of ADEQ's ambient air monitoring program.[32] In Finding 11 of the 2018 TSA, the EPA noted that:

> The distance between collocated $PM_{2.5}$ monitors were not being met at Nogales Post Office (AQS ID: 04-023-0004). The primary Federal Reference Method (FRM) $PM_{2.5}$ monitor was 4.5 meters from the collocated FRM $PM_{2.5}$ monitor and therefore not meeting the requirement of 2 to 4 meters between monitors. Additionally, the collocated FRM $PM_{2.5}$ monitor was closer to the side of the building than the primary FRM $PM_{2.5}$ monitor and was close to not meeting siting requirements. Since the collocated FRM $PM_{2.5}$ monitor was 4.5 meters closer to the side of the building than the primary FRM $PM_{2.5}$ monitor, the monitor pair could measure different concentrations.[33]

To address this finding, ADEQ moved the collocated monitor to 2.2 meters from the primary FRM monitor on February 2, 2019.[34]

The EPA did not recommend invalidating any data from the Nogales Post Office monitoring site based on this TSA finding.[35] The purpose of distance requirements for collocated $PM_{2.5}$ monitors is to ensure that the two monitors measure similar concentrations so that data from the monitors can be compared to estimate the precision of the measurements.[36] Under the EPA's weight of evidence approach for evaluating the suitability of data for regulatory purposes, the precision of $PM_{2.5}$ measurements is considered a systematic criterion,[37] meaning that it is important for the correct interpretation of the data, but it does not usually affect the validity of a

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[31] Id.
[32] Technical Systems Audit of the Ambient Air Monitoring Program: Arizona Department of Environmental Quality, April 2 – April 6, 2018; Final Report dated April 2019 ("2018 TSA"). The 2018 TSA is attached to its transmittal letter dated April 25, 2019, from Elizabeth J. Adams, EPA Region IX, to Timothy J. Franquist, ADEQ.
[33] Id. at 24.
[34] Letter dated July 2, 2019, from Daniel Czecholinski, Director, Air Quality Division, ADEQ, to Gwen Yoshimura, Manager, Air Quality Analysis Office, EPA Region IX, Attachment: Finding Corrective Action Form.
[35] 2018 TSA Report, 24.
[36] 40 CFR part 58, Appendix A, sections 3.2.3 and 4.2.1.
[37] EPA, Quality Assurance Handbook for Air Pollution Measurement Systems ("QA Handbook"), Vol. II, Ambient Air Quality Monitoring Program, appendix D, March 2017, 28.

sample or group of samples.[38] Accordingly, the fact that the collocated monitors were 4.5 meters apart does not affect the validity of the data collected at the Nogales Post Office monitoring site.

To summarize, based on the EPA's reviews of the relevant monitoring network plans, certifications, quality assurance data, and 2018 TSA, we propose to find that the $PM_{2.5}$ data collected at the Nogales Post Office monitoring site are suitable for determining whether the Nogales area has attained 2006 $PM_{2.5}$ 24-hour NAAQS based on the most recent certified data available in AQS.

3. Evaluation of Attainment

Table 1 shows the calculated 24-hour $PM_{2.5}$ design value at the Nogales Post Office monitoring site within the Nogales area for the 2018-2020 period.[39] The data show that the 24-hour design value for the 2018–2020 period, 26 μg/m^3, was equal to or less than 35 μg/m^3, the 2006 $PM_{2.5}$ 24-hour NAAQS;[40] and, preliminary data for 2021 continue to show that the Nogales area is meeting the NAAQS.[41] Consequently, based upon three years of complete, quality-assured and certified data from 2018–2020, the EPA proposes to determine that the Nogales area has attained and continues to attain the 2006 24-hour $PM_{2.5}$ NAAQS.

Table 1: Nogales Area 2020 Design Value for the 2006 $PM_{2.5}$ 24-Hour NAAQS With Annual 98th Percentile Concentrations (μg/m^3).

Monitor	AQS Site ID #	98th percentile			2018-2020 design value
		2018	2019	2020	
Nogales Post Office	04-023-0004	21.8	24.7	32.2	26

Source: AQS, Design Value Report, dated November 19, 2021.

B. The Area Must Have a Fully Approved SIP Meeting the Requirements Applicable for the Purposes of Redesignation Under Section 110 and Part D of the CAA

Under CAA section 107(d)(3)(E)(ii) and (v), the EPA must have fully approved the applicable SIP for the nonattainment area under CAA section 110(k) and the state containing such an area must have met all requirements applicable to the area under section 110 and part D.

[38] Id., 2.
[39] We calculated the design value for the 2018–2020 period as the average of the annual 98th percentiles for each of the three years according to 40 CFR 50, Appendix N, section 4.5.
[40] AQS, Design Value Report, dated November 19, 2021.
[41] AQS, Combined Site Sample Values Report, dated November 19, 2021.

We interpret the references to the "applicable implementation plan" and "applicable requirements" in section 107(d)(3)(E)(ii) and in 107(d)(3)(E)(v), respectively, to mean that a SIP must be fully approved only with respect to requirements that are applicable for purposes of redesignation. The CAA section 110 and part D requirements that are linked to a particular nonattainment area's designation and classification (except those directly related to attainment, as discussed in section II.B.2 of this proposal) are the relevant measures to evaluate in reviewing a redesignation request. Requirements that apply, regardless of the designation of an area of a state, are not applicable requirements for the purpose of redesignation, and the state will remain subject to these requirements after the nonattainment area is redesignated to attainment.

For example, CAA section 110(a)(2)(D) requires that SIPs contain certain measures to prevent sources in a state from significantly contributing to air quality problems in another state; these SIPs are often referred to as "transport SIPs." Because the section 110(a)(2)(D) requirements for transport SIPs are not linked to a particular nonattainment area's designation and classification, but apply regardless of the area's attainment status, these are not applicable requirements for the purpose of redesignation, under CAA section 107(d)(3)(E).
This is consistent with the EPA's existing policy on applicability of the conformity SIP requirement for redesignations.[42]

The EPA may rely on prior SIP approvals in approving a redesignation request,[43] and any additional measure or element we may approve in conjunction with our redesignation action.[44]

1. State Implementation Plan Requirements Under Section 110

The general SIP elements and requirements set forth in CAA section 110 include, but are not limited to, the following: submittal of a SIP that has been adopted by the state after reasonable public notice and hearing; provisions for establishment and operation of appropriate

[42] 75 FR 36023, 36026 (June 24, 2010) and citations within.
[43] Calcagni Memo, 3; *Wall v. EPA*, F.3d 426 (6th Cir. 2001); and *Southwest Pennsylvania Growth Alliance v. Browner*, 114 F.3d 984, 989-990 (6th Cir. 1998).
[44] 68 FR 25418, 25426 (May 12, 2003) and citations within.

procedures needed to monitor ambient air quality; implementation of a source permitting program; provisions for the implementation of part C requirements for prevention of significant deterioration (PSD); provisions for the implementation of part D requirements for nonattainment new source review permit programs; provisions for air pollution modeling; and, provisions for public and local agency participation in planning and emissions control rule development.

On numerous occasions, ADEQ has submitted, and the EPA has approved, provisions addressing the basic CAA section 110 provisions. The Arizona SIP contains enforceable emissions limitations; requires monitoring, compiling, and analyzing of ambient air quality data; requires preconstruction review of new or modified stationary sources; provides for adequate funding, staff, and associated resources necessary to implement its requirements; and, provides the necessary assurances that the State maintains responsibility for ensuring that the CAA requirements are satisfied in the event that local or regional agencies are unable to meet their CAA obligations. Relevant to this proposal, on November 5, 2012, the EPA approved SIP revisions submitted by the state of Arizona with respect to the requirements of CAA section 110(a)(2) for the 2006 $PM_{2.5}$ NAAQS.[45]

In conclusion, we find that there are no outstanding or disapproved applicable SIP submittals that prevent redesignation of the Nogales area for the 2006 24-hour $PM_{2.5}$ standard. Therefore, we propose to conclude that the ADEQ has met all SIP requirements for the Nogales area that are applicable for purposes of redesignation under section 110 of the CAA.

2. State Implementation Plan Requirements Under Part D

Subparts 1 and 4 of part D, title I of the CAA contain air quality planning requirements for $PM_{2.5}$ nonattainment areas. Subpart 1 contains general requirements for all nonattainment areas of any pollutant governed by a NAAQS, including $PM_{2.5}$. The subpart 1 requirements

[45] 77 FR 66398. The EPA approved the submittals as satisfying most requirements of CAA section 110(a)(2), but disapproved the submittals with respect to sections 110(a)(2)(C), (D)(i)(II), (D)(ii), (J), and (K) because of a deficiency with respect to PSD requirements in Maricopa and Pima counties. We also partially disapproved the submittals with respect to 110(a)(2)(E)(ii), but this disapproval pertained only to Maricopa, Pima, and Pinal counties and thus has no relevance to the Nogales area.

include, in relevant part, provisions for implementation of RACM, a demonstration of RFP, emissions inventories, a program for preconstruction review and permitting of new or modified major stationary sources, contingency measures, and transportation conformity.

Subpart 4 contains specific planning and scheduling requirements for $PM_{2.5}$ nonattainment areas. The requirements described in CAA section 189(a), (c), and (e) apply specifically to Moderate $PM_{2.5}$ nonattainment areas and include the following: an approved permit program for construction of new or modified major stationary sources; provisions for RACM; an attainment demonstration; quantitative milestones demonstrating RFP toward attainment by the applicable attainment date; and, provisions to ensure that the control requirements applicable to major stationary sources of $PM_{2.5}$ also apply to major stationary sources of $PM_{2.5}$ precursors, except where the Administrator has determined that such sources do not contribute significantly to $PM_{2.5}$ levels that exceed the NAAQS in the area.

As noted in section I.B of this proposal, in 2013 the EPA issued a clean data determination for the Nogales area, based on 2009–2011 data. As part of this determination, we found that the following CAA requirements in sections 172 and 189 would not apply to the Nogales area for so long as the area continued to attain the $PM_{2.5}$ standard or until the area was redesignated to attainment: an attainment demonstration, RACM, RFP, and contingency measures.

Moreover, in the context of evaluating the area's eligibility for redesignation, there is a separate and additional justification for finding that requirements associated with attainment are not applicable for purposes of redesignation. Prior to and independent of the clean data policy, and in the context of redesignations specifically, the EPA has interpreted CAA SIP submittal requirements associated with attainment of the NAAQS (such as attainment and RFP demonstrations) as not being applicable for purposes of redesignation.[46] Similarly, the Calcagni memo provides that requirements for RFP and other measures needed for attainment will not

[46] General Preamble, 13564.

apply for redesignations because they have meaning and applicability only where areas do not meet the NAAQS.[47] With respect to contingency measures, the EPA explained that the section 172(c)(9) contingency measure requirements are directed at ensuring RFP and attainment by the applicable date; consequently, these requirements no longer apply when an area has attained the standards and is eligible for redesignation. In addition, CAA section 175A(d) provides requirements for specific maintenance plan contingency provisions that effectively supersede the requirements of section 172(c)(9) for these maintenance areas.

In sum, the EPA has concluded that the requirements associated with attainment do not apply for purposes of evaluating whether an area attaining the standards qualifies for redesignation. The EPA has enunciated this position since the General Preamble was published in 1992, and it represents our interpretation of what constitutes applicable requirements under section 107(d)(3)(E). The courts have recognized the scope of the EPA's authority to interpret "applicable requirements" in the redesignation context.[48]

The remaining applicable part D requirements for Moderate $PM_{2.5}$ areas include the following: (1) an emissions inventory under section 172(c)(3); (2) a permit program for the construction and operation of new and modified major stationary sources of $PM_{2.5}$ under sections 172(c)(5) and 189(a)(1)(A); (3) control requirements for major stationary sources of $PM_{2.5}$ precursors under section 189(e), except where the Administrator determines that such sources do not contribute significantly to $PM_{2.5}$ levels that exceed the standards in the area; (4) requirements under section 172(c)(7) that meet the applicable provisions of section 110(a)(2); and, (5) provisions to ensure that federally supported or funded projects conform to the air quality planning goals in the applicable SIP under section 176(c). We discuss each of these requirements next.

a. Emissions Inventory

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[47] Calcagni memo, 6.

[48] The Seventh Circuit decision in *Sierra Club v. EPA*, 375 F.3d 537 (7th Cir. 2004) (upholding the EPA's redesignation of the St. Louis metropolitan area to attainment) is one such example.

Section 172(c)(3) of the CAA requires states to submit a comprehensive, accurate, current inventory of $PM_{2.5}$ and precursor pollutants for the baseline year from all sources within the nonattainment area. As noted earlier in section I.C, we approved the Nogales area emissions inventories under CAA section 172(c)(3) in 2015.

b. Permits for New and Modified Major Stationary Sources

CAA sections 172(c)(5) and 189(a)(1)(A) require that states submit SIP revisions that establish certain requirements for new or modified major stationary sources in nonattainment areas, including provisions to ensure that major new sources or major modifications of existing sources of nonattainment pollutants incorporate the highest level of control (referred to as the lowest achievable emission rate (LAER)), and that increases in emissions from such stationary sources are offset to provide for RFP towards attainment in the nonattainment area. The major source threshold for Moderate $PM_{2.5}$ nonattainment areas is 100 tons per year of $PM_{2.5}$.[49] The process for reviewing permit applications and issuing permits for new or modified stationary sources of air pollution is referred to as new source review (NSR). With respect to nonattainment pollutants in nonattainment areas, this process is referred to as nonattainment NSR (NNSR). Areas that are designated as attainment or unclassifiable for one or more NAAQS are required to submit SIP revisions that ensure that major new stationary sources or major modifications of existing stationary sources meet the federal requirements for PSD, including application of best available control technology for each applicable pollutant emitted in significant amounts, among other requirements.[50]

ADEQ has air permitting responsibilities in Santa Cruz County and the Nogales area. ADEQ has an EPA-approved NNSR program for $PM_{2.5}$.[51] With respect to sources subject to ADEQ's jurisdiction, EPA-approved regulations include rules for the review of applications for

[49] CAA section 302(j).
[50] PSD requirements control the growth of new source emissions in areas designated as attainment or unclassifiable for a NAAQS.
[51] 80 FR 67319 (November 2, 2015); 83 FR 19631 (May 4, 2018); 86 FR 31927 (June 16, 2021).

new or modified stationary sources. The EPA has not approved ADEQ regulations specifically meeting the NNSR requirements of CAA sections 172(c)(5) and 189(a)(1)(A). The EPA interprets section 107(d)(3)(E)(v) of the CAA, however, such that final approval of an NNSR program is not a prerequisite to approving a state's redesignation request. The EPA has determined in past redesignations that an NNSR program does not have to be approved prior to redesignation provided that the area demonstrates maintenance of the standards without part D NNSR requirements in effect.[52]

The demonstration of maintenance of the $PM_{2.5}$ NAAQS in the Nogales Maintenance Plan relies on projections of future emissions based on various growth factors. For the types of stationary sources that are subject to ADEQ jurisdiction, future emissions are projected based on either the operational history of the facility or population growth projections and do not take credit for future control technology requirements, such as LAER, or for imposition of emissions offsets.[53] Thus, we find that the maintenance demonstration for the Nogales area does not rely on an NNSR program, and that the area need not have a fully-approved NNSR program prior to approval of the $PM_{2.5}$ redesignation request for the area.

If we finalize the redesignation action as proposed herein, the requirements of the PSD program will apply with respect to $PM_{2.5}$.[54] With respect to the PSD requirements, ADEQ has an EPA-approved PSD program under CAA sections 160 through 165 of the CAA, except for greenhouse gases (GHGs), and the EPA has delegated to ADEQ the authority to administer the federal PSD program for GHGs under 40 CFR 52.21.[55] These programs will apply to $PM_{2.5}$ emissions from new major sources and major modifications upon redesignation of the area to

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[52] See, generally, the Nichols memo; see also, the more detailed explanations in the following redesignation rulemakings: Detroit, Michigan (60 FR 12467–12468, March 7, 1996); Cleveland-Akron-Lorrain, Ohio (61 FR 20458, 20469–20470, May 7, 1996); Louisville, Kentucky (66 FR 53665, 53669, October 23, 2001); Grand Rapids, Michigan (61 FR 31831, 31836–31837, June 21, 1996); and San Joaquin Valley, California (73 FR 22307, 22313, April 25, 2008 and 73 FR 66759, 66766–66767, November 12, 2008).

[53] In Section III.D of this proposal, we discuss the point source emissions projections with respect to the Valencia Power Plant, the sole operating point source in the Nogales area and include perquisite citations to the Plan.

[54] With respect to other criteria pollutants, PSD requirements already apply in the Nogales area.

[55] 40 CFR 52.144.

attainment. Thus, new major sources and major modifications to existing major sources with significant $PM_{2.5}$ emissions, as defined under 40 CFR 51.166 and 52.21, will be required to obtain a PSD permit.

We conclude that the Arizona SIP adequately meets the requirements of section 172(c)(5) and 189(a)(1)(A) for purposes of redesignation of the Nogales area.

c. Control Requirements for $PM_{2.5}$ Precursors

Section 189(e) of the CAA provides that control requirements for major stationary sources of direct PM_{10} (including $PM_{2.5}$) also apply to PM precursors from those sources, except where the EPA determines that major stationary sources of such precursors do not contribute significantly to PM_{10} levels that exceed the standards in the area. The CAA does not explicitly address whether it would be appropriate to include a potential exemption from precursor controls for all source categories under certain circumstances. In implementing subpart 4 for PM_{10}, the EPA has allowed states to determine that a precursor was "insignificant" where the state could show in its attainment plan that it would attain the NAAQS expeditiously without adoption of emissions reduction measures aimed at that precursor. This approach was upheld in *Association of Irritated Residents v. EPA*.[56] Subsequently, the EPA included this approach within the $PM_{2.5}$ SIP Requirements Rule.[57] A state may develop its attainment plan and adopt RACM that target and control only those precursors that are necessary for the purpose of timely attainment.[58]

Therefore, because the section 189(e) requirement is primarily actionable in the context of addressing precursors in an attainment plan, a precursor exemption analysis under section 189(e) and the EPA's implementing regulations is not an applicable requirement that needs to be fully approved in the context of a redesignation under CAA section 107(d)(3)(E)(ii). As discussed earlier in our proposal, for areas that are attaining the standards, the EPA does not interpret the requirements of subpart 1 and subpart 4 that are associated with attainment to be

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[56] 423 F.3d 989 (9th Cir. 2005).
[57] See generally 81 FR 58017-58026.
[58] Id at 58020.

applicable requirements for the purpose of redesignating the area to attainment.

As previously noted, the EPA determined in 2013 and more recently in 2017 that the Nogales area had attained the 24-hour $PM_{2.5}$ NAAQS.[59] Therefore, no additional controls of any pollutant, including any $PM_{2.5}$ precursor, are necessary to bring the area into attainment. In section III.A of this proposal, we propose to find that the area continues to attain the NAAQS. In section III.C, the EPA proposes to determine that the Nogales area has attained the standard due to permanent and enforceable emissions reductions. Also, as presented in section III.D, we propose to find that the Nogales Maintenance Plan demonstrates continued maintenance of the 24-hour $PM_{2.5}$ NAAQS through 2032. Taken together, these factors support our conclusion that $PM_{2.5}$ precursors are controlled adequately.

d. Compliance with Section 110(a)(2)

Section 172(c)(7) of the CAA requires the SIP to meet the applicable provisions of section 110(a)(2). As described in section III.B.1 of this proposal, we conclude that the Arizona SIP meets the requirements of section 110(a)(2) that are applicable for purposes of this redesignation.

e. General and Transportation Conformity Requirements

Under section 176(c) of the CAA, states are required to revise their SIPs to establish criteria and procedures to ensure that federally supported or funded projects in nonattainment areas and former nonattainment areas subject to a maintenance plan (referred to as "maintenance areas") conform to the air quality planning goals in the applicable SIP. Section 176(c) further provides that state conformity provisions must be consistent with federal conformity regulations that the CAA requires the EPA to promulgate. The EPA's conformity regulations are codified at 40 CFR part 93, subpart A (referred to herein as "transportation conformity") and subpart B (referred to herein as "general conformity"). Transportation conformity applies to transportation

[59] Also, the Nogales area has recorded ambient air quality data under the $PM_{2.5}$ NAAQS continuously since 2009; refer to Nogales Maintenance Plan, 15, Figure 6.

plans, programs, and projects developed, funded, and approved under title 23 U.S.C. or the Federal Transit Laws (49 U.S.C. Chapter 53), and general conformity applies to all other federally supported or funded projects. SIP revisions intended to address the conformity requirements are referred to herein as "conformity SIPs." In 2005, Congress amended section 176(c) of the CAA. Under the amended conformity statutory provisions, states are no longer required to submit conformity SIPs for general conformity, and the conformity SIP requirements for transportation conformity have been reduced to include only those relating to consultation, enforcement, and enforceability.[60]

We have not approved a transportation conformity SIP for the Nogales area. We consider it reasonable, however, to interpret the conformity SIP requirements as not applying for purposes of a redesignation request under section 107(d) because the conformity SIP requirement continues to apply post-redesignation (conformity applies in maintenance areas as well as nonattainment areas) and because the federal conformity rules (set forth in 40 CFR part 93, subpart A and subpart B) apply where the EPA has not approved a state's rule.[61]

C. The Area Must Show that the Improvement in Air Quality is Due to Permanent and Enforceable Emissions Reductions

To approve a redesignation to attainment, under section 107(d)(3)(E)(iii) of the CAA, the EPA is required to determine that a nonattainment area's improvement in air quality is due to emissions reductions that are permanent and enforceable, and that the improvement results from the implementation of the applicable SIP, applicable federal air pollution control regulations, and other permanent and enforceable regulations. Under this criterion, a state must be able to reasonably attribute the improvement in air quality to permanent and enforceable emissions reductions. Attainment resulting from temporary reductions in emissions rates (e.g., reduced production or shutdown due to temporary adverse economic conditions) or unusually favorable

[60] CAA section 176(c)(4)(E).
[61] See *Wall v. EPA*, 265 F.3d 426 (6th Cir. 2001), upholding this interpretation. See also, 60 FR 62748 (December 7, 1995).

meteorology would not qualify as an air quality improvement due to permanent and enforceable emissions reductions.[62]

Within the Nogales area, federal programs have been the primary measures contributing permanent and enforceable emissions reductions leading to attainment of the NAAQS. Increasingly stringent federal motor vehicle standards for cars and trucks, federal requirements for lower sulfur content in diesel fuel, and capital improvements to ports of entry (POE), and expansion of the Mariposa POE have contributed to reducing ambient $PM_{2.5}$ concentrations since the Nogales area was classified as nonattainment in 2009.

The federal motor vehicle program and federal fuel standards for sulfur content in diesel have contributed to attainment of the $PM_{2.5}$ NAAQS in the Nogales area by reducing emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors, such as SO_2 and NO_X.[63] Federal tier 2 and 3 motor vehicle standards implemented from 2004 to 2014 helped to reduce on-road mobile source $PM_{2.5}$ emissions in the Nogales area by 53 percent, from 2008 to 2017.[64] Federal sulfur content standards for diesel fuel were implemented in conjunction with the federal motor vehicle program standards. Lower sulfur content fuel has reduced SO_2 emissions and allowed pollution control equipment to operate more effectively to reduce emissions of other pollutants as well. Taken together these federal programs contributed to NO_X emission reductions of 56 percent in the Nogales area, in addition to the $PM_{2.5}$ emissions reduction discussed above.[65]

Beginning in 2010, the Mariposa POE, located 1.7 miles west of the Nogales Post Office monitor, underwent a series of capital improvements to expand this POE, to divert truck traffic from the DeConcini POE located in downtown Nogales, and to facilitate faster vehicle inspections resulting in less truck idling and faster throughput at the Mariposa POE.[66] These capital improvements included significant increases in the number of inspection facilities for

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[62] Calcagni memo, 4.
[63] Nogales Maintenance Plan, 22-24.
[64] Nogales Maintenance Plan, 22.
[65] Nogales Maintenance Plan, 24.
[66] Nogales Maintenance Plan, 19-22.

both commercial trucks and motor vehicles. These POE capital improvements contributed to reduced $PM_{2.5}$ emissions associated with truck crossings at the U.S./Mexico border.[67]

With respect to the connection between the emissions reductions and the improvement in air quality, we also conclude that the air quality improvement in the Nogales area is not the result of a local economic downturn, temporary emissions reductions, or unusual or extreme weather patterns. Our conclusion is based on the observation that the $PM_{2.5}$ design value for the Nogales area has been below 35 $\mu g/m^3$, the level of the 2006 $PM_{2.5}$ 24-hour NAAQS, since 2009 and has been consistently between 25-30 $\mu g/m^3$ from 2011 to 2020.[68] In sum, ambient $PM_{2.5}$ concentrations in the Nogales area have been consistently below the NAAQS for a lengthy period of time, and have not been subject to large swings and disparate observations that a sudden facility closure or an extreme weather pattern might produce.

In conclusion, we find that the improvement in ambient air quality in the Nogales area is due to permanent and enforceable reductions in emissions of direct $PM_{2.5}$ and $PM_{2.5}$ precursors, resulting from control measures such as (1) implementation of the federal motor vehicle program and diesel fuel standards; and (2) facility capital expansions and processing improvements leading to reduced motor vehicle idling times and faster vehicle throughput at federal POEs. Therefore, we propose to find that Arizona has satisfied the criterion for redesignation set forth at CAA section 107(d)(3)(E)(iii).

D. The Area Must Have a Fully Approved Maintenance Plan Under CAA Section 175A

Under section 107(d)(3)(E)(iv) of the CAA, to approve a redesignation to attainment, the EPA must fully approve a maintenance plan for the area as meeting the requirements of section 175A of the CAA. Section 175A specifies the required elements of a maintenance plan for areas seeking redesignation from nonattainment to attainment. Under section 175A, the plan must demonstrate continued attainment of the applicable NAAQS for at least 10 years after the EPA

[67] Nogales Maintenance Plan, 21.
[68] Id. at 15, Figure 6.

approves a redesignation to attainment. Eight years after redesignation, a state must submit a revised maintenance plan that demonstrates continued attainment for the subsequent 10-year period following the initial 10-year maintenance period. To address the possibility of future NAAQS violations, the maintenance plan must contain such contingency provisions as the EPA deems necessary to promptly correct any violation of the NAAQS that occurs after redesignation of the area. The Calcagni memo provides further guidance on the content of a maintenance plan, explaining that a maintenance plan should include an attainment emissions inventory, maintenance demonstration, monitoring and verification of continued attainment, and a contingency plan. Based on our review and evaluation of the Nogales Maintenance Plan, we are proposing to approve the Plan as meeting the requirements of CAA section 175A.

1. Attainment Inventory

A maintenance plan for the $PM_{2.5}$ NAAQS should include an "attainment emissions inventory" of direct $PM_{2.5}$ emissions and $PM_{2.5}$ precursors in the area to identify a level of emissions sufficient to attain the 24-hour $PM_{2.5}$ NAAQS.[69] The attainment emissions inventory should be consistent with the EPA's most recent guidance on emissions inventories for nonattainment areas available at the time it was developed and should represent emissions during the timeframe associated with the ambient air quality monitoring data showing attainment of the NAAQS. The EPA has provided guidance for developing PM emissions inventories in "Emissions Inventory Guidance for Implementation of Ozone and Particulate Matter National Ambient Air Quality Standards (NAAQS) and Regional Haze Regulations" (July 2017).

The Nogales Maintenance Plan's demonstration that the area attained the standard is based on monitoring data from 2017–2019, the three most recent years with certified air quality data available at the time of adoption and submittal of the Plan.[70] Consistent with this timeframe, ADEQ selected 2017 for the attainment emissions inventory. Appendix B of the Nogales

[69] Calcagni Memo, 8-9.

[70] The Plan was submitted to the EPA on April 13, 2021, prior to certification of 2020 monitoring data on April 26, 2021.

Maintenance Plan is a technical support document (TSD) detailing the emissions data and development of the emissions inventory for the Plan.[71]

The attainment emissions inventory in the Nogales Maintenance Plan includes $PM_{2.5}$, NO_X, SO_X, VOC, and NH_3 estimates from all relevant source categories, which the Plan divides among point, nonpoint, on-road mobile, non-road mobile, and fugitive road dust.[72] ADEQ developed the emissions estimates for each source type using appropriate sources and methods.[73] Point source emissions were based on ADEQ's State and Local Emissions Inventory System (SLEIS) database and facility permit data.[74] Non-point source emissions were based on the county-level data in the EPA's 2014 National Emissions Inventory (NEI) projected to 2017 and allocated to the smaller nonattainment area.[75] On-road mobile source emissions were derived from running the MOVES2014b[76] emissions factor model with the appropriate vehicle population and vehicle miles traveled data.[77] Non-road mobile source emissions were derived from the same MOVES2014b model and county-level data, again allocated to the smaller nonattainment area.[78] Fugitive road dust emissions, from paved and unpaved roads, were derived from the county-wide 2014 NEI estimates, projected to 2017 using Arizona Department of Transportation (ADOT) vehicle miles traveled (VMT) estimates, and allocated to the Nogales area using population share.[79]

Table 2 presents a summary of actual annual $PM_{2.5}$ emissions estimates for the 2017 attainment year for sources in the Nogales area.[80] Based on the emissions estimates for 2017 in Table 2, combined fugitive road dust (unpaved and paved roads) accounts for approximately 59

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[71] Nogales Maintenance Plan, Appendix B – "Emissions Inventory Technical Support Document for the 2006 Nogales $PM_{2.5}$ Maintenance Area".
[72] Nogales Maintenance Plan, 38, section 5.1 and Table 5-1.
[73] TSD, 25, Table 3-1.
[74] Id. at 25, Section 3.1.
[75] Id. at 27, Section 3.3.
[76] EPA's Motor Vehicle Emission Simulator (MOVES) is a state-of-the-science emission modeling system.
[77] Id. at 25, Section 3.2.1.
[78] Id. at 25, Section 3.2.2.
[79] Id. at 27, Section 3.2.3.
[80] As we discuss in section III.D.2 of this proposal, the winter day emissions inventories for the maintenance demonstration include winter daily emissions estimates and daily average emissions estimates scaled from the annual emissions estimates.

percent of total $PM_{2.5}$ emissions in the area. The next highest source category is non-point sources at 30 percent.

Table 2: 2017 Nogales Area $PM_{2.5}$ and Precursor Compound Emissions Inventories by Source Category (tons per year)					
Category	$PM_{2.5}$	NO_X	SO_X	VOC	NH_3
Point Sources	0.17	7.8	0.054	0.066	---
Non-Point Sources	57.0	39.0	2.4	432.0	3.7
On-Road Mobile Emissions	10.2	414.4	1.8	245.1	6.0
Non-Road Mobile Emissions	9.3	123.2	0.48	77.0	0.188
Unpaved Road Fugitive Dust	96.2	---	---	---	---
Paved Road Fugitive Dust	13.6	---	---	---	---
Totals	186.5	584.4	4.7	754.2	9.9
Source: TSD, 41, Table 4-9. Numbers may differ slightly due to rounding.					

Based on our review of the attainment emissions inventory in the Nogales Maintenance Plan, including the supporting information in the TSD, we find that the attainment year inventory is comprehensive, the methods and assumptions used by ADEQ to develop the inventories are reasonable, and the 2017 inventory reasonably estimates actual $PM_{2.5}$ emissions in that year. We also find that the 2017 emissions inventory is appropriate for use as the attainment inventory for the Nogales Maintenance Plan because the year 2017 is within the 2017–2019 period during which the area was attaining the 24-hour $PM_{2.5}$ NAAQS.[81]

2. Maintenance Demonstration

Section 175A(a) of the CAA requires that the maintenance plan "provide for the maintenance of the national primary ambient air quality standard for such air pollutant in the area concerned for at least 10 years after the redesignation." A state may generally demonstrate maintenance of the NAAQS by either showing that future emissions of a pollutant or its precursors will not exceed the level of the attainment inventory, or by conducting modeling that shows that the future mix of sources and emissions rates will not cause a violation of the NAAQS.[82] Assumptions concerning emissions rates in maintenance demonstrations should

[81] Nogales Maintenance Plan, 15, Table 2-2.
[82] Calcagni memo, 9-11.

generally reflect permanent, enforceable measures.[83] Therefore, the analysis should assume that sources are operating at permitted levels (or historic peak levels), unless evidence is presented that such an assumption is unrealistic.[84]

To demonstrate maintenance of the 2006 24-hour $PM_{2.5}$ NAAQS for ten years from redesignation, ADEQ projected annual and winter emissions inventories for $PM_{2.5}$, NO_X, SO_X, VOC, and NH_3 for 2026, the interim maintenance year, and 2032, the ten-year maintenance demonstration year.[85] Given that almost all recorded exceedances of the 24-hour $PM_{2.5}$ NAAQS in the recent past have occurred during the winter months of December and January,[86] ADEQ based its maintenance demonstration on a winter day emissions inventories analysis. Furthermore, because the 24-hour $PM_{2.5}$ NAAQS is a daily standard it is appropriate for the maintenance demonstration to be in the form of a daily emissions inventory comparison.

a. Annual Emissions Inventories Comparisons

Using the 2017 emissions inventories as a baseline and growth factors described in the TSD, ADEQ projected emissions inventories for 2026 and 2032. These projections were based primarily on Arizona's forecasts of population and VMT or in some cases, information particular to a given source or source category. To estimate mobile source emissions, ADEQ used an EPA on-road emissions model (i.e., MOVES2014b).[87] Table 3 summarizes ADEQ's 2017 attainment year $PM_{2.5}$ emissions and projected $PM_{2.5}$ emission levels for 2026 and 2032.

Table 3: 2017, 2026, and 2032 Nogales Area $PM_{2.5}$ Emissions Inventories by Source Category (tons per year)				
Category	2017	2026	2032	Projected Change from 2017 to 2032

[83] Calcagni memo, 9.
[84] Id. at 4. See also, Memorandum dated November 30, 1993, from Kent D. Berry, Acting Director, Air Quality Management Division, Subject: Use of Actual Emissions in Maintenance Demonstrations for Ozone and Carbon Monoxide (CO) Nonattainment Areas.
[85] Nogales Maintenance Plan, section 5 and TSD.
[86] TSD, 20-22, Section 2.3 and Table 2-1.
[87] The EPA announced the release of a new version of MOVES in the *Federal Register* on January 7, 2021. 86 FR 1106. In that document, we explained that state and local agencies that had already completed significant work on a SIP with a version of MOVES2014 could continue to rely on the earlier version of MOVES. Id. at 1108. As of January 7, 2021, ADEQ had already released a draft of the Nogales Maintenance Plan for public review. Therefore, we consider the Plan's reliance on MOVES2014b to be appropriate.

Point Sources	0.17	1.23	1.23	+1.06
Non-Point Sources	57.0	57.9	57.6	+0.6
On-Road Mobile Emissions	10.2	2.2	1.4	-8.8
Non-Road Mobile Emissions	9.3	6.0	5.2	-4.1
Unpaved Road Fugitive Dust	96.2	98.8	100.6	+4.4
Paved Road Fugitive Dust	13.6	14.0	14.2	+0.6
Totals	186.5	180.1	180.2	-6.3
Source: TSD 41, Table 4-9; TSD 60-63, Tables 6-4 through 6-8. Numbers may differ slightly due to rounding.				

Despite expected population growth in the Nogales area,[88] the Plan's projected $PM_{2.5}$ annual emissions through 2032 are lower than the 2017 attainment year inventory emissions. The decrease in annual $PM_{2.5}$ emissions from 2017 to 2032 most likely reflects continued implementation of the federal motor vehicle program, cleaner motor vehicle fuels, and ongoing vehicle fleet turnover, whereby newer and cleaner vehicles are substituted for older more polluting vehicles as they are retired. A comparison of precursor compound totals from 2017 to 2032 in Table 4 suggests a similar conclusion. VOC and NO_X emissions are projected to decrease due to large reductions in the on-road mobile source category.[89] SO_X emissions are projected to increase, largely due to emissions in the point source category from the Valencia Power Plant (VPP), an electrical generation facility located north of the City of Nogales.[90] To address this projected increase in SO_X emissions in the annual and winter daily inventories, ADEQ provided additional analyses to demonstrate that VPP operations are unlikely to cause or contribute to future violations of the $PM_{2.5}$ NAAQS. We review the VPP analyses before proceeding to our review of the winter daily emissions inventories.

Table 4: 2017, 2026, and 2032 Nogales Area Emissions Inventories for $PM_{2.5}$ and Precursor Pollutant Totals (tons per year)

Pollutant	2017	2026	2032	Projected Change from 2017 to 2032
$PM_{2.5}$	186.5	179.9	180.2	-6.3
NO_X	584.4	307.4	250.6	-333.8
SO_X	4.7	9.8	9.8	+5.1

[88] Nogales Maintenance Plan, 8, Table 1-5.
[89] Id. at 39, Table 5-2.
[90] Nogales Maintenance Plan Section 5.2.3; TSD Section 5.1; TSD-Appendix D. TSD 19, Figure 2-2 provides a map showing the location of the Valencia Power Plant in relation to the City of Nogales and the Nogales Post Office air quality monitoring station.

VOC	754.3	665.8	650.0	-104.3
NH_3	9.8	8.3	7.9	-1.9
Source: Plan 39, Tables 5-2 and 5-3. Numbers may differ slightly due to rounding.				

As noted, the EPA generally recommends use of permitted "maximum potential to emit" ("PTE") levels or maximum historical emissions in maintenance demonstrations, unless a state presents evidence that such an assumption is unrealistic. ADEQ examined past VPP emissions levels to determine if the facility has approached its PTE. Facility records from 2000 to 2018 show that VPP has operated at levels significantly below its PTE.[91] For instance, from 2000-2018, the VPP's highest annual particulate matter emissions was 1.23 tons per year (tpy) in 2001 compared to its $PM_{2.5}$ PTE of 45.52 tpy.[92] Emissions levels from VPP have been even lower since 2014, due to a reduction in operating hours that resulted from improvements to transmission lines in the area.[93] Given that VPP's 2001 emissions represent the highest level of facility emissions since 2000, ADEQ used this data set as the basis for projecting conservative annual emissions estimates of direct $PM_{2.5}$ and $PM_{2.5}$ precursors for VPP.

Also, because VPP can legally emit at its PTE, ADEQ conducted an analysis to determine the ambient air quality effects for direct $PM_{2.5}$ in the Nogales area if VPP were to operate at PTE levels.[94] VPP emissions of NO_X and SO_X are well below the Modeled Emission Rates for Precursors recommended in EPA guidance, and so we would not be expect them to cause or contribute to a violation of the $PM_{2.5}$ NAAQS.[95] ADEQ used AERSCREEN, an EPA screening-level air quality model to estimate VPP's worst case 24-hour $PM_{2.5}$ concentration

[91] Id. at 44, Table 5-4.
[92] Id. at Tables 5-3 and 5-4.
[93] Id. at 44.
[94] TSD-Appendix D: Valencia AERSCREEN Modeling Overview Technical Memo, from Kamran Khan, ADEQ, to Scott Bohning, EPA-Region IX, December 19, 2018.
[95] A Modeled Emission Rate for Precursors (MERP) is the precursor emission rate that is likely to cause an impact that may cause or contribute to a NAAQS violation. The VPP PTE emissions of 240 tpy NO_X and 200 tpy SO_X are far below the MERP levels for annual impacts for the southwestern U.S., roughly 11,000 tpy for each; also, VPP PTE emissions are also far below the MERPs for 24-hour impacts (i.e., 6514 tpy for NO_X and 1508 tpy for SO_X). "Guidance on the Development of Modeled Emission Rates for Precursors (MERPs) as a Tier 1 Demonstration Tool for Ozone and $PM_{2.5}$ under the PSD Permitting Program," EPA 454/R-19-003. U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, April 2019, available at *https://www.epa.gov/scram/clean-air-act-permit-modeling-guidance*.

when operating at PTE for direct $PM_{2.5}$ emissions. AERSCREEN[96] provides conservatively high concentration estimates by using worst case meteorology from among a range of wind speeds, degrees of cloud cover, temperatures, and other meteorological parameters. ADEQ post-processed AERSCEEN model output to exclude locations inside the facility boundary because they are not considered ambient air subject to the NAAQS. The analysis covered distances out to 10 kilometers; the highest concentrations were near the facility boundary, decreasing with distance from the boundary. ADEQ's analysis estimated that the highest ground level ambient $PM_{2.5}$ concentration that would result from VPP operating at its PTE, including background $PM_{2.5}$ concentrations, would be 30.9 $\mu g/m^3$, which is below the 24-hour $PM_{2.5}$ NAAQS of 35 $\mu g/m^3$.[97]

In addition to the AERSCREEN analysis, ADEQ examined the Nogales area meteorological data and wind patterns and determined that prevailing winds blow from south to north and that in cold weather with stagnant wind conditions, cold air masses move south to north.[98] Given that VPP is well north of the Nogales Post Office monitor, usual Nogales wind patterns and air movement are likely to move VPP emissions away from the monitor and the urbanized area in the southern portion of the nonattainment area. Furthermore, peak electrical power consumption in the desert southwestern U.S. is during the summer months, making this the most likely period VPP is to be operational, whereas the winter months have the highest $PM_{2.5}$ concentrations in the Nogales area.[99]

To summarize, as a conservative estimate of annual emissions levels at VPP, ADEQ utilized 2001 emissions data, the highest historical emissions levels in the 2000-2018 period. In addition, ADEQ estimated the worst case 24-hour $PM_{2.5}$ concentration for VPP and determined that at PTE levels the facility's $PM_{2.5}$ emissions are unlikely to cause or contribute to a violation

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[96] EPA, 2011. "AERSCREEN Released as the EPA Recommended Screening Model". Memorandum dated April 11, 2011, Office of Air Quality Planning and Standards, Research Triangle Park, NC. Available at web page *https://www.epa.gov/scram/air-quality-dispersion-modeling-screening-models#aerscreen.*.
[97] TSD, 43 and TSD-Appendix D.
[98] TSD, 18, 19; Figures 2-1 and 2-2, respectively.
[99] Id. at 44.

of the $PM_{2.5}$ NAAQS. This conclusion is further buttressed by prevailing wind direction and meteorological data for the Nogales area.

b. Winter Daily Emissions Inventories Comparisons

In determining the need for winter daily emissions inventories as a basis for an attainment year (2017) to maintenance year (2032) comparison, ADEQ reviewed the 2014-2016 ambient air quality data sets. ADEQ found the ambient $PM_{2.5}$ concentrations rose as temperature dropped with the onset of the winter season, November through January.[100] December had the highest ambient $PM_{2.5}$ concentrations and concentrations rose as ambient temperatures dropped, particularly on days where the daily low temperature was less than 40^{o} F. Given the data, ADEQ selected November-January as the Nogales area winter season.

With a few exceptions, the winter daily emissions inventories are based on the annual emission inventories.[101] More precisely, most winter daily source category emissions estimates are average daily emissions estimates (annual emissions estimates divided by 365 days per year), except for the seasonal calculations for residential fuel combustion (RFC). The annual RFC emissions estimate was allocated to the 92-day November through January winter season. The winter daily emissions estimates for VPP were not based on winter operations, but were conservative in that all estimated annual VPP emissions were assigned to the 92-day winter season. The 2017 daily emissions estimate was based on 2013–2018 VPP operational data. The projected 2026 and 2032 daily emissions estimates were conservative estimates based on 2013-2018 data and operational maximums from 2013.[102] Then, ADEQ compared the "winter daily" projected 2026 and 2032 $PM_{2.5}$ estimate for VPP (i.e., 1.8 tpy or 44 pounds per day) with the historical 2001 high $PM_{2.5}$ value (i.e., 1.2 tpy), and found it to be a relatively more conservative

[100] TSD, 64, Section 7.1 and Appendices B & C.
[101] Id. at 64-66, Section 7.2.
[102] ADEQ used 0.0000964 ton of PM per megawatt hour (i.e., 0.1928 pounds of PM per megawatt hour) as an emissions level and a gross daily load of 228 megawatt hours per day as an activity level, both values representing the highest operational data from 2013-2018. TSD, 65-66, Equation 7-2, within Section 7.2.1.

estimate.[103]

Table 5: 2017, 2026, and 2032 Nogales Area $PM_{2.5}$ Emissions Inventories by Source Category (pounds per winter day)				
Category	2017	2026	2032	Projected Change from 2017 to 2032
Point Sources	13.8	44.0	44.0	+30.2
Non-Point Sources	164.0	181.9	190.9	+26.9
Residential Fuel Consumption	561.0	500.0	463.0	-98.0
On-Road Mobile Emissions	56.3	12.0	8.2	-48.1
Non-Road Mobile Emissions	51.2	32.7	28.5	-22.7
Unpaved Road Fugitive Dust	527.2	541.5	551.0	+23.8
Paved Road Fugitive Dust	74.5	76.5	77.8	+3.3
Totals	1,448.0	1,388.0	1,363.0	-84.6
Source: TSD, 67-70, Tables 7-2 and 7-4. Numbers may differ slightly due to rounding.				

A review of the total daily $PM_{2.5}$ emissions in Table 5 shows that overall emissions are expected to decrease from 2017 to 2032. Like the annual emissions inventories estimates, mobile source emissions show the largest decreases and offset smaller increases in fugitive dust. RFC emissions are projected to decrease because of households switching to cleaner burning fuel sources over time.[104]

Table 6: 2017, 2026, and 2032 Nogales Area Emissions Inventories for $PM_{2.5}$ And Precursor Pollutants (pounds per winter day)				
Pollutant	2017	2026	2032	Projected Change from 2017 to 2032
$PM_{2.5}$	1,448	1,388	1,363	-85
NO_X	3,821	2,882	2,594	-1,227
SO_X	45	82	83	+38
VOC	4,672	4,172	4,069	-603
NH_3	105	93	89	-16
Source: TSD 67-70, Tables 7-2 and 7-3. Numbers may differ slightly due to rounding.				

A review of Table 6 shows that $PM_{2.5}$ and all precursor compound emissions are decreasing from 2017 to 2032, except for SO_X emissions. SO_X emissions are predicted to

[103] TSD, 66. ADEQ calculated 1.8 tpy by multiplying 44 pounds per day by 83 days; 83 days are the maximum number of VPP operating days in the 2013–2018 period. In generating its 2032 projected VPP emissions, ADEQ is assuming that all 83 operational days are occuring during the winter season at the facility's highest recent rate; hence, their assertion that this is a conservative estimate of VPP emissions, given that VPP is more likely to be operational during the summer months during peak periods of energy demand.

[104] TSD, 31, 32, 64. Section 3.3.2.2 describes how the annual RFC per capita emissions factor was generated and applied to get an annual RFC emissions estimate. This annual estimate was then converted to a winter daily missions estimate by dividing the annual emissions estimate by the number of winter days from November through January, 92 days.

increase by 38 pounds per day over this timeframe due to increases in projected emissions from VPP, the only point source in the Nogales area.[105] As discussed, the projected 2032 daily VPP emissions estimates are very conservative when compared to past historical operations data, in terms of both magnitude and seasonal intensity, i.e., assuming all facility emissions occur during the winter season. Also, ADEQ has examined the effect on ambient $PM_{2.5}$ concentrations if VPP emitted $PM_{2.5}$ at PTE levels and determined that the facility's direct $PM_{2.5}$ emissions are unlikely to cause a violation of the 24-hour $PM_{2.5}$ NAAQS, even at such high and historically unachieved emissions levels. Lastly, the Nogales area meteorology and wind pattern make it unlikely that VPP emissions would have a significant effect on ambient $PM_{2.5}$ concentrations at the Nogales Post Office monitor.

c. EPA Evaluation and Conclusion

Based on our review, we find that ADEQ used reasonable methods, growth factors, and assumptions to project direct $PM_{2.5}$ and precursor compound emissions to 2026 and 2032. ADEQ's emissions inventory projections show that future emissions through 2032 will be below estimated actual emissions in 2017, the attainment year, for $PM_{2.5}$ and all relevant precursor pollutants, except SO_X. ADEQ's projected 2032 SO_X emissions increase represents a small percentage of the overall emissions inventory compared to $PM_{2.5}$ and precursors, whether compared individually or collectively.[106] Also, the projected SO_X emissions estimates reflect conservative assumptions concerning VPP future operations when considered against the facility's historical record and most likely future operating scenario. ADEQ provided additional analyses and information to demonstrate that VPP is unlikely to cause a violation of the $PM_{2.5}$ NAAQS if VPP were to emit $PM_{2.5}$ at PTE levels. In conclusion, we find that ADEQ has provided an adequate basis to demonstrate maintenance of the 24-hour $PM_{2.5}$ NAAQS within the Nogales area through 2032.

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[105] Nogales Maintenance Plan, 43, Table 5-6.

[106] Our conclusion is further supported by the meteorological data (TSD, 17-24) and chemical speciation data (Plan, 44) that ADEQ has presented.

Section 175A requires that maintenance plans provide for maintenance of the relevant NAAQS in the area for at least 10 years after redesignation. If this redesignation becomes effective in 2022, the projected 2032 emissions inventory demonstrates that the Nogales area will maintain the $PM_{2.5}$ NAAQS for 10 years beyond redesignation. Moreover, the projected interim emissions inventory for 2026, i.e., the milestone year between the 2017 attainment inventory and the 2032 maintenance plan horizon year, sufficiently demonstrates that the Nogales area will maintain the standards throughout the period from redesignation through 2032. Therefore, we propose to find that the Nogales Maintenance Plan adequately demonstrates maintenance of the 24-hour $PM_{2.5}$ NAAQS through 2032.

3. Verification of Continued Attainment

Once an area has been redesignated, the state should continue to operate an appropriate air quality monitoring network, in accordance with 40 CFR part 58, to verify the attainment status of the area.[107] Data collected by the monitoring network are also needed to implement, if triggered, the contingency provisions of the maintenance plan.

As discussed in section III.A of this proposal, $PM_{2.5}$ is currently monitored by ADEQ within the Nogales area. In section 5.2 of the Nogales Maintenance Plan, ADEQ commits to continue operating a $PM_{2.5}$ air quality monitoring network in the Nogales area consistent with federal regulations and to consult with the EPA via the annual network review process regarding any potential changes to the network. We find that the Nogales Maintenance Plan contains adequate provisions for continued ambient $PM_{2.5}$ monitoring to verify continued attainment of the NAAQS through the maintenance period.

In addition to the ambient air monitoring program, the EPA also recommends that the State verify continued attainment through methods other than ambient air quality monitoring to show no significant change in projected activity levels or emissions factors, e.g., periodic

[107] Calcagni memo, 11.

reviews of key data and assumptions used to develop the attainment inventory.[108] In the Nogales Maintenance Plan, ADEQ commits to perform a comprehensive review of the factors and assumptions used to develop the attainment and projected inventories to determine whether significant changes have occurred.[109] ADEQ's review will be conducted for the 2026 interim projection year and may include the following elements: permit applications and source reports, population data, agricultural activity information, wildfire/prescribed burning data, and motor vehicle activity data.[110] In the Plan, ADEQ also identifies the legal authority under which the State collects the needed information to conduct the comprehensive review of the factors and assumptions used in developing the attainment and projected emissions inventories. We find that ADEQ's commitment to verify continued attainment of the NAAQS through a comprehensive review of the factors and assumptions used to develop the emissions inventories in the Nogales Maintenance Plan is acceptable.

4. Contingency Provisions

Section 175A(d) of the CAA requires that maintenance plans contain contingency provisions, as the EPA deems necessary, to promptly correct any violations of the NAAQS that occur after redesignation of the area. Such provisions must include a requirement that the state will implement all measures with respect to the control of the air pollutant concerned that were contained in the SIP prior to the area being redesignated to attainment. These contingency provisions are distinguished from contingency measures required for nonattainment areas under CAA section 172(c)(9) in that they are not required to be fully-adopted measures that will take effect without further action by the state for the maintenance plan to be approved. The contingency provisions of a maintenance plan are, however, an enforceable part of the SIP and should ensure that contingency measures are adopted expeditiously once the Plan's contingency provisions are triggered by a specified event. Thus, a state should identify the specific indicators

[108] Id.
[109] Nogales Maintenance Plan, 46, Section 5.4.
[110] Id. at 45-46.

or triggers that will be used to determine when the contingency measures need to be implemented. Next, the maintenance plan should clearly identify the measures to be adopted, include a schedule and procedure for adoption and implementation of the measures, and contain a specific timeline for action by a state.

The State has adopted a contingency plan to address possible future $PM_{2.5}$ air quality problems in the Nogales area. The contingency provisions are included in section 5.5 of the Plan. Upon a monitored violation of the $PM_{2.5}$ 24-hour NAAQS, ADEQ commits to the following steps:

1. Within 60 days of the NAAQS violation trigger, ADEQ will begin analyzing the cause(s) of the exceedances that led to the violation. The analysis will include review and validation of ambient air quality and meteorological data, evaluation to determine if any of the exceedances qualifies as an exceptional event per the EPA's Exceptional Event Rule (EER),[111] and assessment of emissions sources contributing to elevated $PM_{2.5}$ levels.
2. If an exceedance qualifies as an exceptional event, ADEQ will prepare and submit to the EPA an exceptional event demonstration. If, during its evaluation, ADEQ determines that new measures are needed to satisfy the requirements of the exceptional events rule, ADEQ will adopt and implement new measures that are permanent and enforceable and meet the "reasonable" level of control described in the EER.
3. If the exceedance does not qualify as an exceptional event, ADEQ will determine which source(s) contributed to the exceedance, identify existing control measures for the source(s), verify source(s) compliance with existing measures, and if necessary, develop, adopt and implement new permanent and enforceable measures or strengthen existing measures.

[111] 81 FR 68216 (October 3, 2016).

Under the contingency plan, if new control measures are needed, then the adoption process will begin within 12 months and final adoption will be completed within 18 months of the triggering event (i.e., a monitored violation of the $PM_{2.5}$ NAAQS). The State would require compliance with new control measures within six months of final adoption of the contingency measures.

The Nogales Maintenance Plan includes a list of contingency measures considered for implementation if the contingency plan is triggered focusing on the principal source categories contributing to $PM_{2.5}$ emissions in the Nogales area.[112] The source categories include stationary sources, fugitive dust sources, and residential wood burning devices. In addition to the contingency plan, ADEQ commits to initiate a review of VPP operations to reduce emissions and implement control measures, as needed, if the facility's direct $PM_{2.5}$ emissions exceed 20 percent of PTE as shown in the VPP annual facility emissions report.[113]

From our review, we find that the State has established a contingency plan for the Nogales area that clearly contains the following: (1) tracking and triggering mechanisms to determine when contingency measures are needed; (2) a description of the process for developing and implementing contingency measures; (3) specific timelines for action; and (4) identifies specific source categories for review, including a specific review process and trigger for the VPP facility. Thus, we propose to conclude that the contingency provisions of the Nogales Maintenance Plan are adequate to ensure prompt correction of a NAAQS violation and satisfy the requirements of the CAA section 175A(d).

5. Transportation Conformity and Motor Vehicle Emissions Budgets

Section 176(c) of the CAA requires federal actions in nonattainment and maintenance areas to conform to the SIP's goals of eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of the standards. Conformity to the SIP's goals means that such actions will not cause or contribute to violations of the NAAQS,

[112] Nogales Maintenance Plan, 47.
[113] Id. at 47-48.

worsen the severity of an existing violation, or delay timely attainment of any NAAQS or any interim milestone.

Actions involving Federal Highway Administration (FHWA) or Federal Transit Administration (FTA) funding or approval are subject to the EPA's transportation conformity rule, codified at 40 CFR part 93, subpart A. Under this rule, metropolitan planning organizations in nonattainment and maintenance areas coordinate with state and local air quality and transportation agencies, the EPA, FHWA, and FTA to demonstrate that an area's regional transportation plans and transportation improvement programs conform to the applicable SIP. This demonstration is typically done by showing that estimated emissions from existing and planned highway and transit systems are less than or equal to the motor vehicle emissions budgets ("budgets") contained in all control strategy SIPs and maintenance plans.[114]

These control strategy SIPs and maintenance plans typically set budgets for criteria pollutants and/or their precursors to address pollution from cars and trucks. Budgets are established for specific years and specific pollutants or precursors and must reflect the motor vehicle control measures contained in the RFP plan and the attainment or maintenance demonstration. Under the transportation conformity rule, budgets must be established for the last year of the maintenance plan for direct $PM_{2.5}$ and $PM_{2.5}$ precursors subject to transportation conformity analyses.[115]

For budgets to be approvable, they must meet, at a minimum, the EPA's adequacy criteria.[116] To meet these requirements in maintenance plans, the budgets must be consistent with the maintenance requirements and reflect all the motor vehicle control measures contained in the maintenance demonstration.[117] The EPA's process for determining adequacy of a budget consists

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[114] Control strategy SIPs refer to RFP and attainment demonstration SIPs. 40 CFR 93.101.
[115] Section 93.102(b)(2)(iii) of the conformity rule identifies VOC and NO_X as PM_{10} precursor pollutants that are presumed insignificant unless the SIP makes a finding that the precursor is significant.
[116] 40 CFR 93.118(e)(4).
[117] 40 CFR 93.118(e)(4)(iii), (iv) and (v). For more information on the transportation conformity requirements and applicable policies on MVEBs, please visit our transportation conformity web site at: *https://www.epa.gov/otaq/stateresources/transconf/index.htm*.

of three basic steps: (1) providing public notification of a SIP submission; (2) providing the public the opportunity to comment on the budget during a public comment period; and (3) making a finding of adequacy or inadequacy.[118]

Within the Nogales Maintenance Plan, ADEQ described the process the State followed for developing the budgets and has enumerated a budgets for the Nogales area.[119] The 2032 conformity budgets for $PM_{2.5}$ and NO_X for the Nogales area are provided in Table 7 on a pounds per day basis consistent with the maintenance demonstration emissions inventories discussed this proposal. Because the Nogales area experiences high volumes of commercial trucking crossing the international border with Mexico, ADEQ included a NO_X budget because NO_X emissions are a mobile source related $PM_{2.5}$ precursor. ADEQ did not include emissions from road construction and maintenance. Upon reviewing the emissions inventories, the State determined that road construction and maintenance emissions were de minimis and unlikely to cause or contribute to violations of the 24-hour $PM_{2.5}$ NAAQS.[120]

Table 7: 2032 Motor Vehicle Emissions Budgets for the Nogales Area (pounds per winter day)

Source	$PM_{2.5}$ Emissions	NO_x Emissions
Direct On-Road Mobile Sources (exhaust, tire and brake wear)	8.2	513.0
Paved Road Fugitive Dust	77.8	---
Unpaved Road Fugitive Dust	551.0	---
Totals	637.0	513.0

Source: Plan, 51, 52; Tables 6-3 and 6-4.

Table 8 shows the 2032 budgets provided by ADEQ on a tons per year basis, consistent with the annual emissions inventories.[121]

Table 8: 2032 Motor Vehicle Emissions Budgets for the Nogales Area (tons per year)

[118] 40 CFR 93.118(f)(2).
[119] Nogales Maintenance Plan, 49-52.
[120] Id. at 50.
[121] It should be noted that a transcription error occurred in Table 6-3 of the Plan where the figures for paved and unpaved road emissions were inadvertently switched, each for the other in the tons per day column. Table 8 reflects the correct tons per year assignment consistent with the pounds per day figures and the annual emissions inventories figures.

Source	$PM_{2.5}$ Emissions	NO_x Emissions
Direct On-Road Mobile Sources (exhaust, tire and brake wear)	1.4	93.7
Paved Road Fugitive Dust	14.2	---
Unpaved Road Fugitive Dust	100.6	---
Total	116.2	93.7
Source: Plan, 51, 52; Tables 6-3 and 6-4.		

ADEQ provided the methodologies to develop the motor vehicle emissions budgets in the TSD and appendices C and D of the Plan. As discussed in section III.D of this proposal, ADEQ used the EPA's MOVES2014b model in the development of these budgets; this was the latest available version of the model at the time the Nogales Maintenance Plan was developed. Paved road VMT estimates for estimating direct and fugitive $PM_{2.5}$ emissions were provided by and in consultation with ADOT using an interpolation methodology where 2017, 2026, and 2032 VMT were estimated from Nogales area traffic data.[122] ADEQ used the most recent AP-42 emissions factor equations from the EPA and National Emissions Inventory data to develop paved and unpaved road fugitive dust emissions estimates.[123]

As part of our review of the approvability of the motor vehicle emissions budget in the Nogales Maintenance Plan, we have evaluated the budgets using the adequacy criteria specified in the transportation conformity rule.[124] First and foremost, Section 93.118(e)(4)(iv) requires that a budget, when considered together with all other emissions sources, be consistent with applicable requirements for RFP, attainment, or maintenance (whichever is relevant to a given implementation plan submission). In this case, the Nogales area budget is consistent with the requirements for maintenance, as discussed in Sections III.D of this proposal. Second, the Nogales budget is presented in a daily format consistent with a maintenance plan intended to

[122] TSD, 46-48, Section 5.3; TSD, 60 61, Section 6.3.
[123] ADEQ used the appropriate AP-42 guidance in sections 13.2.1 and 13.2.2 to calculate fugitive dust from paved and unpaved roads. The AP-42 emission factor equation inputs for estimating paved and unpaved road fugitive dust emissions can be found in Appendices C and D of the Plan. The most recent EPA revision and approval of these AP-42 emission factor equations occurred in 2011 and are reflected in the Plan's estimates; 76 FR 6328 (February 4, 2011).
[124] 40 CFR 93.118(e)(4) and (5).

meet the 24-hour $PM_{2.5}$ NAAQS, as well as an annual and tons per year basis consistent with the emissions inventories. Third, Section 93.118(e)(4)(iii) requires that the budget be clearly identified and precisely quantified. ADEQ has done so in Section 6.3.3 of the Plan. Fourth, ADEQ developed the budgets in consultation with ADOT, the regional transportation agency for the Nogales area. Lastly, prior to their submission to the EPA, ADEQ submitted the budgets for public inspection and comment as discussed in Section II.B of this proposal.

We have reviewed the motor vehicle emissions budgets in the Nogales Maintenance Plan and find that they meet applicable statutory and regulatory requirements including the adequacy criteria in 40 CFR 93.1118(e)(4) and (5). We will complete the adequacy review concurrent with our final action on the Nogales Maintenance Plan. The EPA is not required under the transportation conformity rule to find budgets adequate prior to our proposing approval of them.[125] In this proposed rule, the EPA is announcing that the adequacy process for these budgets begins, and the public has 30 days to comment on the budgets presented here and in the Nogales Maintenance Plan.[126]

While a finding of adequacy and approval are two separate actions, reviewing the budgets for their adequacy against the criteria in the transportation conformity rule informs the EPA's decision to propose approval of the budgets. We have completed our detailed review of the Nogales Maintenance Plan and are proposing herein to approve the maintenance demonstration in section III.D, and we have reviewed the budgets in the Nogales Maintenance Plan and find that they are consistent with this maintenance demonstration. Furthermore, the budgets are based on control measures that have been adopted and implemented, and they meet all other applicable statutory and regulatory requirements including the adequacy criteria in 40 CFR 93.1118(e)(4) and (5). Therefore, we are proposing to approve the 2032 maintenance year budgets in the

[125] Under the transportation conformity regulations, the EPA may review the adequacy of submitted motor vehicle emission budgets simultaneously with the EPA's approval or disapproval of the submitted implementation plan. 40 CFR 93.118(f)(2).
[126] 40 CFR 93.118(f)(2)(i) and (ii).

Nogales Maintenance Plan. We may either finalize the adequacy process and find the budgets adequate for the purposes of transportation conformity or approve the budgets for the 24-hour $PM_{2.5}$ NAAQS in the Nogales area as proposed, whichever occurs first. We may also finalize an adequacy finding and approval of the budgets in our final action on the Nogales Maintenance Plan, per 40 CFR 93.118(f)(2)(iii).

IV. Environmental Justice Considerations

Executive Order 12898 requires that federal agencies, to the greatest extent practicable and permitted by law, identify and address disproportionately high and adverse human health or environmental effects of their actions on minority and low-income populations.[127] Additionally, Executive Order 13985 directs federal government agencies to assess whether, and to what extent, their programs and policies perpetuate systemic barriers to opportunities and benefits for people of color and other underserved groups,[128] and Executive Order 14008 directs federal agencies to develop programs, policies, and activities to address the disproportionate health, environmental, economic, and climate impacts on disadvantaged communities.[129] To identify environmental burdens and susceptible populations in underserved communities in the Nogales area, we performed a screening-level analysis using the EPA's environmental justice (EJ) screening and mapping tool ("EJSCREEN").[130] Our screening-level analysis indicates that the Nogales area scores high when compared to the national average for the EJSCREEN "Demographic Index," which is the average of an area's percent minority and percent low income populations, i.e., the two demographic indicators explicitly named in Executive Order

[127] 59 FR 7629 (February 16, 1994).
[128] 86 FR 7009 (January 25, 2021).
[129] 86 FR 7619 (February 1, 2021).
[130] "EJScreen for NogalesAZ NAA 2006 FinePM NAAQS 18Jan2022.xlsx" in the docket for this proposal. The EPA used EJSCREEN to obtain environmental and demographic indicators representing the Nogales area. EJSCREEN provides a nationally consistent dataset and approach for combining environmental and demographic indicators and is available at *https://www.epa.gov/ejscreen/what-ejscreen.*

12898.[131] As discussed in the EPA's EJ technical guidance, people of color and low-income populations often experience greater exposure and disease burdens than the general population, which can increase their susceptibility to adverse health effects from environmental stressors.[132] Underserved communities can also experience reduced access to health care, nutritional, and fitness resources, further increasing their susceptibility.

As discussed in section III.A, the Nogales area meets the health-based 2006 $PM_{2.5}$ 24-hour NAAQS of 35 $\mu g/m^3$ based on the 2018–2020 design value and continues to meet the NAAQS based on preliminary data for 2021. This proposed action would redesignate the Nogales area to attainment. Redesignation to attainment would not, in and of itself, create any new requirements. Rather, it would result in the applicability of requirements already contained in the CAA for areas that have been redesignated to attainment. Thus, we believe that our proposed action will not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898.

V. Proposed Action and Request for Public Comment

Under CAA section 110(k)(3), and for the reasons presented above, the EPA is proposing to approve the Nogales Maintenance Plan submitted by ADEQ on April 13, 2021, as a revision to the Arizona SIP. In doing so, we are proposing to approve the maintenance demonstration and contingency provisions as meeting all of the applicable requirements for maintenance plans and related contingency provisions in CAA section 175A, and to approve the motor vehicle emissions budgets and find that these budgets are adequate.

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[131] EJSCREEN reports environmental indicators (e.g., air toxics cancer risk, lead paint exposure, and traffic proximity and volume) and demographic indicators (e.g., people of color, low income, and linguistically isolated populations). Depending on the indicator, a community that scores highly for an indicator may have a higher percentage of its population within a demographic group or a higher average exposure or proximity to an environmental health hazard compared to the state, region, or national average. EJSCREEN also reports EJ indexes, which are combinations of a single environmental indicator with the EJSCREEN Demographic Index. For additional information about environmental and demographic indicators and EJ indexes reported by EJSCREEN, see EPA, "EJSCREEN Environmental Justice Mapping and Screening Tool – EJSCREEN Technical Documentation," section 2, September 2019.

[132] EPA, "Technical Guidance for Assessing Environmental Justice in Regulatory Analysis," section 4, June 2016.

In addition, under CAA section 107(d)(3)(D), we are proposing to approve Arizona's request to redesignate the Nogales area from nonattainment to attainment for the 2006 24-hour $PM_{2.5}$ NAAQS. We are doing so based on our conclusion that the State has met all the criteria for redesignation under CAA section 107(d)(3)(E). Specifically, we propose to make the following findings:

- The Nogales area has attained the 24-hour $PM_{2.5}$ NAAQS based on the most recent three-year period (2018–2020) of quality-assured, certified, and complete $PM_{2.5}$ data;
- The relevant portions of the Arizona SIP are fully approved;
- The improvement in Nogales area ambient air quality is due to permanent and enforceable reductions in direct and precursor $PM_{2.5}$ emissions;
- Arizona has met all requirements applicable to the Nogales area with respect to section 110 and part D of the CAA; and
- The Nogales area has a fully approved maintenance plan meeting the requirements of CAA section 175A, including motor vehicle emissions budgets for the year 2032.

We are soliciting comments on these proposed actions. We will accept comments from the public for 30 days following publication of this proposal in the *Federal Register* and will consider any relevant comments before taking final action.

VI. Statutory and Executive Order Reviews

Under the CAA, redesignation of an area to attainment and the accompanying approval of a maintenance plan under section 107(d)(3)(E) are actions that affect the status of a geographic area and do not impose any additional regulatory requirements on sources beyond those imposed by state law. Redesignation to attainment does not in and of itself create any new requirements, but rather, results in the applicability of requirements contained in the CAA for areas that have been redesignated to attainment. Moreover, the Administrator is required to approve a SIP submission that complies with the provisions of the Act and applicable federal regulations. 42 U.S.C. 7410(k); 40 CFR 52.02(a). Thus, in reviewing SIP submissions, the EPA's role is to

approve state choices provided they meet the criteria of the CAA. Accordingly, these proposed actions merely propose to approve a state plan and redesignation request as meeting federal requirements and do not impose additional requirements beyond those imposed by state law. For these reasons, the proposed actions:

• Are not a "significant regulatory action" subject to review by the Office of Management and Budget under Executive Orders 12866 (58 FR 51735, October 4, 1993) and 13563 (76 FR 3821, January 21, 2011);

• Do not impose an information collection burden under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.);

• Are certified as not having a significant economic impact on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 et seq.);

• Do not contain any unfunded mandate or significantly or uniquely affect small governments, as described in the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4);

• Do not have Federalism implications as specified in Executive Order 13132 (64 FR 43255, August 10, 1999)

• Are not an economically significant regulatory action based on health or safety risks subject to Executive Order 13045 (62 FR 19885, April 23, 1997);

• Are not a significant regulatory action subject to Executive Order 13211 (66 FR 28355, May 22, 2001);

• Are not subject to requirements of section 12(d) of the National Technology Transfer and Advancement Act of 1995 (15 U.S.C. 272 note) because application of those requirements would be inconsistent with the CAA; and

• Will not have disproportionately high and adverse human health or environmental effects on minority populations, low-income populations and/or indigenous peoples, as specified in Executive Order 12898 (59 FR 7629, February 16, 1994), as discussed in Section IV of this proposal.

In addition, there are no areas of Indian country within the Nogales area, and the State plan for which the EPA is proposing approval does not apply on any Indian reservation land or in any other area where the EPA or an Indian tribe has demonstrated that a tribe has jurisdiction. In those areas of Indian country, this proposed action does not have tribal implications and will not impose substantial direct costs on tribal governments or preempt tribal law as specified by Executive Order 13175 (65 FR 67249, November 9, 2000), because redesignation is an action that affects the status of a geographical area and does not impose any new regulatory requirements on tribes, impact any existing sources of air pollution on tribal lands, nor impair the maintenance of NAAQS in tribal lands.

List of Subjects

40 CFR Part 52

Environmental protection, Air pollution control, Incorporation by reference, Intergovernmental relations, Nitrogen dioxide, Particulate matter, Reporting and recordkeeping requirements, Sulfur dioxide, Volatile organic compounds.

40 CFR Part 81

Environmental protection, Air pollution control, National parks, Wilderness areas.

Authority: 42 U.S.C. 7401 *et seq*.

Dated: **February 18, 2022.**

Martha Guzman Aceves,
Regional Administrator,
Region IX.

[FR Doc. 2022-04070 Filed: 3/1/2022 8:45 am; Publication Date: 3/2/2022]